ORIGINAL ARTICLES

LARYNGEAL DIPHTHERIA; OUR KNOWLEDGE OF IT UP TO DATE.

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Diphtheria of the larynx, also known as membranous croup, may be associated with the faucial type of the disease or may occur without any involvement of the throat structures. The ordinary clinical features of faucial diphtheria are lacking in the laryngeal type. This is due to various factors, chief among which are the rapid course of the disease often producing asphyxia before other constitutional signs of diphtheria appear; and site of the local infection, the laryngeal mucous membrane not asborbing the toxin as rapidly as does the faucial mucous membrane.

Symptoms: The onset is usually slow and gradual. The patient presents symptoms of a laryngitis excepting that the constitutional signs are not pronounced. There is usually a slight fever. The voice is hoarse, the cough is brassy or metallic. These symptoms gradually increase in severity. The patient becomes dyspneic and cyanotic. There is increasing stridor, with retraction of the intercostal spaces and the substernal and supraclavicular spaces. There is complete aphonia. Unless relieved the patient dies from suffocation and exhaustion.

Differential Diagnosis: Foreign body in the larynx will give signs of obstruction. They are usually sudden following the inspiration of the foreign substance. The history, the sudden onset, the absence of increasing obstruction will aid in making the proper diagnosis.

Acute catarrhal laryngitis is usually preceded by acute catarrhal symptoms elsewhere. In a typical case of this type of laryngitis with suffocative symptoms the diagnosis is not difficult. The sudden onset of the attack in the night, the loud metallic cough, and the heightened temperature are sufficient to differentiate this disease from the slow progressive laryngeal stenosis of laryngeal diphtheria.

Treatment: Antitoxin in sufficient dosage is indicated as early as the diagnosis is made. Although a laryngeal examination may be made to determine the presence and the extent of the membrane, it is not necessary in most cases. Inasmuch as these cases are usually seen late in the disease, the dose of antitoxin should be sufficient to take care of all the toxin present. Thirty to forty thousand units subcutaneously will usually suffice. However, no standard dosage can be recommended for general use. If the symptoms are very severe as shown by the rapid heart, the exhaustion, the cyanosis, and the marked stridor, immediate steps must be taken to relieve the patient. Such measures are intubation or tracheotomy. One should never wait too long before performing these operations. The continued strain may be too much for the patient. It is better to intube too early than too late.

Intubation has almost universally superseded tracheotomy as the primary operation for the relief of this type of stenosis of the larynx. It is extremely rare for tracheotomy to succeed where intubation has failed. There are cases where the membrane has extended down the larynx into the trachea and in such instances intubation may fail. Where a patient requires a tube after the acute symptoms have passed and where repeated reintubations have been needed, tracheotomy is indicated. Nevertheless, a tracheotomy set should be on hand whenever an intubation is to be performed.

If the tube is not expelled before the fourth day it is advisable to remove it. Reintubation may be necessary. Broncho-pneumonia is a frequent complication of both intubation and treacheotomy. The swallowing of a tube need cause no alarm, as the tube is readily passed without causing any disturbance.

It has long been stated that the broncho-pneumonias following intubation are due to inhalation of food. A properly fitting tube will cause no inconvenience in taking proper food. Liquid diet is indicated; soft solids may be better taken in some cases.

Local measures such as steaming have very little if any good effect upon the process. Plenty of cool fresh air is desirable, but care should be taken not to expose the patient.

The operations discussed above require a specialist in that particular branch of medicine, one who can intubate and extubate readily. The best place for such a patient is in a hospital where trained physicians, nurses especially educated in such work, and ability to meet emergencies, are found.

Prognosis: Laryngeal diphtheria is extremely fatal in the first two years of life. The most frequent cause of death is broncho-pneumonia.

Conclusions: Laryngeal diphtheria is very fatal in infancy and early childhood. An early diagnosis and early administration of antitoxin in sufficient dosage will prevent the necessity of operative measures. Intubation should not be delayed too long, as the exhaustion of the patient will then offset the good of the operation. A diphtheria hospital with trained staff of physicians and nurses is the best place for the treatment of patients suffering from laryngeal diphtheria.

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